

Maine Principals' Association

WRESTLING WEIGHT MANAGEMENT HANDBOOK

(Updated 11/20/17)

INTRODUCTION

Inappropriate and unhealthful weight loss techniques have always been a concern in the sport of wrestling. Many state high school associations have adopted weight management programs that attempt to regulate weight loss according to sound medical practice. Beginning in 2006-2007, the National Federation of State High Schools Associations (NFHS) required all states to adopt a comprehensive weight management program in order to ensure the good health of all wrestlers.

The MPA Wrestling Committee, in 2004, created a Weight Management Committee to devise such a program for Maine. The committee consisted of coaches, a wrestling official, athletic directors, high school administrators, and a physician. After reviewing programs from other states, the committee adopted this policy and sent it on for the approval of the Wrestling Committee and the Interscholastic Management Committee.

GOAL

The goal of a weight management program is to determine a minimum weight class that is safe for a given wrestler. The program also determines a weight loss timetable that ensures that a wrestler loses weight in a safe and controlled manner.

METHOD

The minimum healthy weight for most people is recognized by the medical profession to be at that point where a male has 7% body fat and a female has 12% body fat. Therefore, in order to determine a minimum healthy weight for a wrestler, he/she has to be weighed and his/her body fat content has to be estimated. If it is above the 7% (12%) minimum, a weight loss table is devised that allows the wrestler to lose not more than 1.5% of his/her body weight per week until 7% (12%) body fat is attained.

No one should infer that the MPA Wrestling Committee believes that all wrestlers should attain minimum weight or that minimum weight is the wrestler's best weight. In fact, most wrestlers will wrestle at a weight higher than their minimum weight. This program only attempts to ensure that wrestlers who decide to lose weight do it in a healthful and controlled manner that does not jeopardize their well-being.

The MPA has chosen the skinfold method of determining a wrestler's percent of body fat. This process is called an "alpha" weigh-in and proceeds in the following steps.

1. The wrestler has his/her hydration level checked. Any body fat measurement is accurate only if a wrestler is properly hydrated. Hydration is checked by one of three methods and the wrestler's urine must have a specific gravity of 1.025 or lower in order to continue testing.
2. The wrestler then has his/her weight measured on a certified scale. This determines the wrestler's "alpha" weight.
3. If the wrestler passes the hydration test, he/she has his/her subcutaneous fat content determined by skinfold measurements conducted by a registered skinfold assessor.
4. The assessor then enters the skinfold measurements and the alpha weight into the minimum weight calculator. The calculation uses the Lohman Equation for body density and the Brozek Equation for body fat composition for males and the Boileau Equation for females. The calculator then establishes a wrestler's safe minimum weight class and a medically safe timeframe for achieving that minimum weight class (no more than 1.5% weight loss per week).

APPLICATION

Each school will be able to print out a list of all its wrestlers that displays each wrestler's minimum weight and the date on which that weight may be obtained. The wrestling coach will be required to produce this Match Date Minimum Weight Class list at every competition in which his/her team participates.

In addition, a weight loss schedule will be available for each wrestler detailing his/her safe minimum weight class and a time frame for attaining that weight.

RESTRICTIONS

Included in a wrestler's minimum weight loss table will be the approved weight classes in which a wrestler may compete in any given week. A wrestler may not compete in a weight class lower than that indicated on his/her weight loss table for that week.

WRESTLING WEIGHT MANAGEMENT PROGRAM

The establishment of a minimum wrestling weight class based on 7% body fat for males and 12% for females is required for all interscholastic wrestlers in MPA schools. The MPA does not endorse the minimum weight class as the athlete's best weight class; only that it is the minimum weight class at which the athlete may compete.

I. Establishing The Minimum Weight Class

- A. Skinfold measurements and certified scales will be utilized to determine each wrestler's alpha weight and body fat percentage. Only skinfold measurements taken by health care professionals (MPA Registered Skinfold Assessors) will be accepted. It is the responsibility of the school to contact a Registered Skinfold Assessor and arrange a time and place to have its wrestling squad weighed and measured. No wrestler may compete until the athlete has had a minimum weight class determined which is submitted on the school's Alpha Master.
- B. The lowest weight class in which a wrestler may compete will be determined as follows:
 1. If the predicted weight at 7% body fat for males and 12% for females is exactly that of one of the weight classes, that weight class shall be the wrestler's minimum weight class.
 2. If the predicted weight is between two weight classes, the wrestler must wrestle at the higher weight class.
- C. For males, the Lohman Equation will be used to calculate body density and the Brozek Equation will be used to calculate body fat. For females, the Boileau Equation will be used to calculate body fat.
- D. When using balance scales, the weight will be rounded up to the nearest 1/4 pound. Digital scale readings are rounded up to the nearest 1/10 pound.
- E. Once a wrestler's alpha weight and body fat percentage have been determined, the assessors will enter that data into the Wrestling Weight Management Program database that is maintained on the MPA website. There are several printouts that are available to schools once the data has been entered for its wrestlers:

1. An Individual Weight Loss Schedule for each wrestler that may be used by the coach with each wrestler.
2. A Team Weight Loss Schedule that combines the individual weight loss schedules for an entire team in one document.
3. A Match Date Minimum Weight Form that will document the minimum weight class for each wrestler on a team for any match date during the season. Coaches must present an updated Match Date Minimum Weight Form to the weigh-in officials at every meet and tournament during the preseason and the regular season. A wrestler may not wrestle if he/she is not listed on the Match Date Minimum Weight Form for that date.

II. Time Frames

- A. No wrestler may compete until his/her alpha weight has been established.
- B. Skinfold measurements may begin two Mondays prior to the first practice date. Wrestlers may be measured at any time on or after this date to establish their alpha weight.
- C. The specific gravity of the wrestler's urine will determine whether the athlete may participate in skinfold measurement on that date. The specific gravity must be equal to or less than 1.025 grams per milliliter (g/ml). Any wrestler not passing the specific gravity urine test must wait a minimum of 48 hours before being retested.

III. School Responsibilities

- A. It is the school's responsibility to contact a Registered Skinfold Assessor from the approved list.
- B. The school will provide the materials and one health professional to conduct the urine specific gravity test. The school may use either:
 1. reagent strips,
 2. a urinometer, or
 3. a refractometerto determine the wrestler's hydration level.
- C. The school must have available at the time of the skinfold measuring:
 1. A certified balance or digital scale certified after August 31 and before November 1.
 2. Skinfold data forms
 3. Adults who will assist in data collection as necessary.
- D. Wrestling coaches may be present to supervise their teams, but may not participate in any of the measurements, data collection, or data recording.

- E. The Registered Skinfold Assessor must enter the data on the MPA weight management website within two business days of the alpha weigh-in.

IV. Wrestlers Below 7% (Males) or 12% (Females) Body Fat

- A. Males – Any male wrestler whose body fat percentage is below 7% must obtain in writing from a licensed physician (M.D. or D.O.) a Physician's Clearance Form stating that the athlete is naturally at his sub-7% body fat level. He may not wrestle below his alpha weight class.
- B. Females – Any female wrestler whose body fat percentage is below 12% must obtain in writing from a licensed physician (M.D. or D.O.) a Physician's Clearance Form stating that the athlete is naturally at her sub-12% body fat level. She may not wrestle below her alpha weight class.

V. Growth Allowance

- A. All wrestlers have a one-pound growth allowance granted in mid-December and another one-pound allowance in mid-January.
- B. A wrestler's alpha weight will be his/her official weight if he/she establishes his/her alpha weight after the January weight allowance is granted.

VI. Weight Loss Per Week

- A. A weight loss of **1.5%** of the alpha weight is allowed per week. The projected earliest date to wrestle at the Predicted Minimum Weight class is on the Match Date Minimum Weight Class printout and is available to the participating schools on the MPA website.
- B. A wrestler will not be allowed to wrestle at any time in a weight class that would require him/her to lose more than **1.5%** of his/her alpha weight per week from the original date of measurement.

VII. Appeal Process

Note: During the appeal process, a wrestler may not wrestle in a weight class lower than that indicated by his/her official weight loss table as established at the alpha weigh-in.

- A. Any athlete may appeal his/her skinfold measurements or calculation using a two-step process that must begin within 14 days of the original assessment.

- Step 1. Reassessment – The athlete shall repeat the assessment with the same assessor.

- Step 2. Hydrostatic Weighing: If the wrestler is dissatisfied with the results of step one, he/she may choose to be hydrostatically weighed to determine body fat percentage. The results of hydrostatic weighing are final and no further appeals are allowed.

- a. Hydrostatic weighing must take place within 21 days of the original assessment.
 - b. Hydrostatic weighing must be at an MPA approved facility.
 - c. The hydrostatic weighing must be completed before an athlete on appeal wrestles in a weight class lower than that indicated by his/her original weight loss table.

VIII. Costs

- A. All costs for the alpha weigh-in and skinfold measurements, appeal process, and nutrition program information are the responsibility of the school.
- B. All costs for appeals are the responsibility of the school or the parents (to be determined by the school).

IX. Assessors

- A. Persons eligible to be trained as assessors include physicians (M.D. or D.O.), registered nurses, licensed practical nurses, certified athletic trainers, physical therapists, physician assistants, nutritionists, health educators or exercise physiologists.
- B. The assessors will be certified and registered with the MPA.
- C. The MPA will conduct yearly training sessions in order that new assessors may be certified.
- D. Assessors must use calipers (Lange or Harpenden) which meet MPA standards.
- E. The assessors will be subject to random sample tests to substantiate the quality of their measurements.
- F. Assessors may charge the school up to \$5.00 for each athlete assessed plus mileage at the MPA rate for each assessment.

G. Assessors will be charged an annual fee of \$10.00 to be a registered assessor.

H. Assessors will be required to be certified every three years.

APPENDIX A

Hydration

In order to have a valid Alpha weigh-in, athletes must be properly hydrated and pass the hydration test. Here are some procedures that all wrestlers may follow before the Alpha weigh-in to insure proper hydration:

- drink 6-8 glasses of water each day for a week before the weigh-in
- engage in no physical activity the evening before the weigh-in or the day of the weigh-in
- avoid caffeinated beverages on the day before and the day of the weigh-in
- drink about 17 ounces of fluid on the day of the weigh-in
- take no vitamins or supplements for 24-hours before the weigh-in
- do not eat for 2 hours before the weigh-in

Also, schools may want to schedule the Alpha weigh-in in the afternoon rather than the early morning since many athletes may be dehydrated after a night's sleep. Questions about proper hydration should be directed to your local health or diet professionals.

APPENDIX B

The MPA recognizes that weight cycling (repeated rapid weight loss followed by rapid weight gain) is detrimental to both wrestler's health and performance. The MPA suggests that schools and coaches take efforts to limit weight cycling.

Schools may implement a rule:

Wrestlers will weigh in at all practice sessions. Once certification weight is attained, a wrestler may not wrestle in a weight class which requires weight loss greater than 1.5% of body weight in the week prior to competition. See table below.

Maximum Allowable Weight 1 Week Prior to Competition

Weight Class	Max Weight 1 Week Prior to Weigh-in
106	107.6
113	114.7
120	121.8
126	127.9
132	134.0
138	140.1
145	147.2
152	154.3
160	162.4
170	172.6
182	184.7
195	197.9
220	223.3
285	289.3

APPENDIX C

ALPHA WEIGH-IN SCHOOL RESPONSIBILITIES

1. Hire a registered MPA skinfold assessor.
2. Have available one of the following as a method to determine hydration:
 - reagent strips
 - refractometer
 - urinometer

a health professional who is familiar with one of the above tests for hydration should be present to do the testing and record the results.

3. Have available a certified scale and personnel to weigh the athletes and record their weights.
 - Dress – Males must be in shorts or swimsuits. Females must be in shorts and halter or a swimsuit.
 - No nude weigh-ins are allowed.

APPENDIX D

TO THE PHYSICIAN:

The Maine Principals' Association has instituted the Wrestling Weight Management Program to encourage healthy weight management by interscholastic wrestlers. As part of this program, a minimum weight class is established for each wrestler prior to his/her competitive season.

Each wrestler's body fat and lead body mass is measured by an MPA certified assessor using skinfold calipers. A minimum weight class is then calculated based on the wrestler's weight at 7% body fat for males and 12% for females.

Your patient was assessed during the pre-season as less than 7% body fat (for males) or 12% body fat (for females). The athlete is requesting that he or she be allowed to wrestle at his or her present weight – (alpha weight at initial assessment). Because this weight is less than 7% (for males) or 12% (for females) body fat, MPA guidelines require permission from the athlete's personal physician. Most adolescents require 5-7% body fat (males) or 10-12% body fat (females) to achieve optimal growth and development. However, there are some adolescents who are naturally lean and develop normally at a lower percent body fat.

Please evaluate your patient for normal growth and development, paying particular attention to weight fluctuations and his or her growth curve. Based on the patient's history and your exam, determine if his or her present weight is compatible with normal growth and development and good health, and indicate your assessment on the reverse side of this memo.

Questions or comments should be directed to Mike Bisson, MPA Assistant Executive Director at mbisson@mpa.cc or 207-622-0217, ext. 140.

Maine Principals' Association
PHYSICIAN'S CLEARANCE FORM
WRESTLER BELOW BODY FAT ALLOWANCE

Any **male wrestler** whose body fat percentage at the time of initial assessment is below 7% must obtain in writing a licensed physician's clearance stating that the athlete is naturally at this sub-7% body fat level. In the case of a **female wrestler**, written physician's clearance must be obtained for athletes who are sub-12% body fat. A physician's clearance is for one season duration and expires March 15 of each school year.

Note: The sub-7% male or sub-12% female who receives clearance may not wrestle below his/her initial assessment scratch weight.

WRESTLER'S NAME: _____ **GRADE:** 9 10 11 12

SCHOOL: _____ **CLASS:** A B

DATA REVIEW:	Date of initial assessment ____/____/____	Body fat % _____
	Initial assessment alpha weight _____ lbs.	
	EXAMINING PHYSICIAN: ENTER DATA BELOW AT TIME OF ATHLETE'S EVALUATION	
	Date ____/____/____	Weight _____ lbs.

CIRCLE "A" OR "B"

A. The wrestler named has received clearance as provided by the Maine Principals' Association Wrestling Management Program, Part IV., to participate at a wrestling weight not lower than his/her weight at the time of initial assessment, which is below the 7% (male) or 12% (female) minimum body fat allowance.

EXAMPLE: *Alpha weight 110 pounds: 7% weight 114 pounds. Wrestler may wrestle no lower than the 112 pound weight class.*

B. The wrestler named is advised to wrestle at a weight which meets or exceeds the 7% or 12% body fat minimum requirement. The wrestler named has been given permission to participate at a weight not lower than the National Federation weight classification circled which cannot be less than the alpha weight listed on the MPA Weight Management Form. This permission is valid from November through March 15 of the current school year.

106 – 113 – 120 – 126 – 132 – 138 – 145 – 152 – 160 – 170 – 182 – 195 – 220 -- 285

PHYSICIAN'S
SIGNATURE: _____ DATE: _____

ADDRESS: _____ CITY: _____ ZIP: _____

PARENT SIGNATURE: _____ DATE: _____

PARENT SIGNATURE: _____ DATE: _____

NOTE: This form is the only document accepted as a "Physician's Clearance." Copies of this form shall be attached to your Alpha Master and provided to opponent coaches and included with State Championship qualifying event entry materials.

Fax a copy of this form to the MPA at 622-1513.

APPENDIX E

HYDROSTATIC WEIGHING PROPOSAL

(Step 1)

A wrestler may choose to be hydrostatically weighed to determine body fat percentage. Results obtained at this step are automatically accepted; the athlete, family, school or coach may not appeal further.

Student to be weighed _____ Grade _____

School _____ School ID# _____

Hydrostatic Weighing Facility _____

Technician Conducting the Weighing _____

Home Phone _____ Work Phone _____

We understand that the results of the hydrostatic weighing will replace all previous skinfold assessments, cannot be appealed, cannot be modified by the Physicians Clearance Form, or any other action; and will remain the reference for this student during this school year.

Parents' Signature _____ Date ___/___/___

Coach's Signature _____ Date ___/___/___

AD Signature _____ Date ___/___/___

Submit this completed form to the MPA, 50 Industrial Drive, Augusta, ME 04430 (Fax 207-622-1513) prior to the hydrostatic weighing. Weighing can take place once this form has been signed by the MPA and returned to the school. The Hydrostatic Weighing Report Form shall be completed by the technician who will forward it to the MPA.

MPA Approval is Required Before Hydrostatic Weighing May Be Conducted.

Approval is granted to conduct the hydrostatic weighing as proposed.

Approval is denied.

MPA Signature _____ Date ___/___/___

Wrestler shall not compete until MPA approval of hydrostatic results is received by the school.

HYDROSTATIC WEIGHING REPORT FORM

(Step 2)

Note: Subject shall be hydrated (specific gravity less than 1.025) at time of test. Subject shall fast six (6) hours prior to test. Wrestler shall not compete until MPA approval of Hydrostatic results is received.

Please type or print in ink – Hydrostatic Weighing is invalid without an approved Hydrostatic Weighing Proposal.

Name _____ Grade _____ Test Date ____/____/____

School _____ School ID# _____

Weight: lbs. $\div 2.2 =$ X 1,000 =

VITAL CAPACITY: (Repeat three (3) times. Record peak/highest value.)

a.) _____ ml. b.) _____ ml. c.) _____ ml. \rightarrow Peak ml.

Temperature (Centigrade) H₂O _____ Density H₂O _____

Residual Volume: Male (VC X .24) = Female (VC X .28) =

WATER WEIGHT: Repeat the measurement process to achieve

1. Progressively heavier weight
2. Progressively less scale deviation
3. Increasing subject comfort
4. < 50 grams scale deviation

Measure 10
record heavier 6

1. 2. 3. 4. 5. 6.

PEAK VALUE OF 1-6 ABOVE MINUS APPARATUS VALUE = WATER WEIGHT

Wa
BODY DENSITY
% BODY FAT

$Bd = \frac{Wa - Ww}{DW} - (RV \div 100)$
 \rightarrow %BF = $(457 / Bd) - 414.2$
=

Evaluator _____ Phone _____

Hydrostatic Weight Facility _____ Phone _____

Address _____ City _____ Zip _____

Evaluator Signature

Notes: VC = Vital Capacity DW = Density of Water Wa = Weight in Grams
 RV = Residual Volume Bd = Body Density ml = Millimeter
 Ww = Weight Under Water Kg = Kilograms

Fax to: MPA, Attention: Mike Bisson 207-622-1513

APPENDIX G

SAMPLE PARENT LETTER

Dear Parent:

The sport of wrestling has sometimes engendered unhealthy and inappropriate weight loss techniques among its participants. The National Federation of State High School Associations, whose rules govern interscholastic wrestling in Maine, requires each state to adopt a weight management policy that initiates a program of healthy weight loss and of a minimum healthy weight class at which a wrestler may compete

In order to provide for healthy weight loss, a wrestler's body fat has to be measured. Your athlete will be involved in the following process to protect his/her health.

1. Before a wrestler can wrestle, he/she must submit to an alpha weigh-in. The steps in this weigh-in are as follows:
 - The athlete's urine is tested for specific gravity in order to ensure proper hydration.
 - The athlete is weighed on a certified scale.
 - The athlete's body fat is determined by using a skinfold caliper.
2. The athlete's weight and body fat percentage is then entered into a formula that determines his/her safest minimum weight class and a safe schedule of weight loss – no more than 1.5% of his/her alpha weight per week. The minimum healthy body fat percentage is considered to be 7% for males and 12% for females.
3. Your son/daughter will then not be allowed to wrestle in any weight class that is below that indicated in his/her weight loss schedule.
4. Athletes who are naturally lean and are below the 7% (12%) standard for body fat must have a doctor's release to wrestle.
5. There will be an appeal process for those athletes who wish to dispute the body fat assessment done at the alpha weigh-in.

The goal of the MPA Weight Management Program is to monitor all wrestlers' weight to ensure that unhealthy and dangerous weight loss is eliminated in interscholastic wrestling in Maine. We hope that you will join us in helping to make wrestling a safe sport for your athlete.

APPENDIX H
FORMULA FOR CALCULATION OF BODY COMPOSITION
VALUES FOR SKINFOLD ASSESSMENT PROCESS
FOR MALES

STEP 1 LOHMAN EQUATION-CALCULATION OF BODY DENSITY

$$BD = [1.0973 - (\text{sum SF} \times .000815)] + [(\text{sum SF})^2 \times .00000084]$$

sum of SF = Triceps SF + Sub scapular SF + Abdominal SF

STEP 2 BROZEK EQUATION-CALCULATION OF % BODY FAT FROM BODY DENSITY

$$\% \text{ BF} = (457/BD) - (414.2)$$

STEP 3 CALCULATION OF MINIMUM WEIGHT AT 7% BODY FAT

$$MWW = ([1 - (\% \text{ BF}/100)] \times \text{TBW}) / (.93)$$

ALTERNATE METHOD FOR MWW

$$\text{FAT WEIGHT (FW)} = \text{TBW} \times (\% \text{ BF}/100)$$

$$\text{LEAN BODY MASS (LBM)} = \text{TBW} - \text{FW}$$

$$MWW = (\text{LBM}) \div .93$$

BOILEAU EQUATION FOR CALCULATION OF BODY FAT
FOR FEMALES

$$\% \text{ BF} = [1.35 \times (\text{sum SF})] - [0.012 \times (\text{sum SF})^2] - 3.4$$

sum of SF = Triceps SF + Sub scapular SF

$$MWW (\text{females}) = (\text{LBM}) \div .88$$